UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,053	12/22/2000	Steven M. Blumenau	E0295/7155	4482

7590 10/05/2004

Richard F. Giunta
c/o Wolf, Greenfield & Sacks, P.C.,
Federal Reserve Plaza
600 Atlantic Avenue
Boston, MA 02210-2211

EXAMINER	
HO, THOMAS M	

ART UNIT	PAPER NUMBER
2134	3

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/748,053	BLUMENAU ET AL.	
	Examiner	Art Unit	
	Thomas M Ho	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-66 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1- 66 are rejected under 35 U.S.C. 102(e) as being anticipated by Hubis et al., US patent 6,343,324.

In reference to claim 1:

Hubis et al. (Column 11, lines 45-57) & (Figure 3b) & (Column 14, line 40 – Column 15, line 52) discloses a method for use in a computer system including a plurality of devices, a shared resource shared by the plurality of devices, and a network that couples the plurality of devices to the shared resource, the method including acts of:

- In response to one of the plurality of devices attempting to access the shared resource and representing itself to the shared resource as a first device, determining whether the one of the plurality of devices is attempting to access the shared resource through a physical connection through the network that is different than a first physical connection through the network used by the first

device to access the shared resource, where the access path qualifier is determined by the WWN (Column 15, lines 50-52) and comparing it with the table entries.

- When it is determined in the fact that one of the plurality of devices is attempting to access the shared resource through a connection through the network that is different than the first physical connection, denying the attempted access by the one of the plurality of devices to the shared resource, when the access path is found not to be the same, the new host will be denied access. (Column 12, lines 27-35)

In reference to claim 3:

Hubis et al. (Column 9, line 63 – Column 10, line 8) discloses the method of claim 1, wherein the network is a Fibre Channel fabric, wherein the one of the plurality of devices and the first device each has an assigned world wide name (WWN) and a fabric identifier(fabric ID), where the fabric ID is the fibre ID.

- Wherein the method further includes a step of storing the WWN and the fabric ID of the first device in response to an access by the first device to the shared resource (Column 9, line 63 – Column 10, line 8)
- Wherein the act (a) is performed in response to an access, that occurs after the access by the first device, by the one of the plurality of devices to the shared resource, where the comparing is done by trying to access the logical volume (Column 12, lines 27-35) and includes acts of:
    - Examining a value of the WWN presented by the one of the plurality of devices to the shared resource to determine that the one of the plurality of

devices is representing itself as being the first device, where the WWN is examined.

- Comparing a value of the fabric ID presented by the one of the plurality of devices to the stored fabric ID for the first device, where the fabric ID is the fiber ID and is used to verify the access path, also used to identify the host. (Column 10, lines 33-40) & (Column 9, line 63 – Column 10, line 8)
- Determining that the one of the plurality of devices is attempting to access the shared resource through a physical connection through the network that is different than the first physical connection when the value of the fabric ID presented by the one of the plurality of devices mismatches the stored fabric ID for the first device, where the fabric ID is the fiber ID which determines the access path is used by the access controller to check if its valid (Column 10, lines 37-40), and where the fiber ID is further compared against the stored fabric IDs in the WWN table entry. (Column 14, lines 13-22, lines 53-56)

In reference to claim 4:

Hubis et al. (Column 9, line 63 – Column 10, line 8) discloses the method of claim 1, wherein the network employs a protocol wherein the one of the plurality of devices and the first device each has a first identifier that uniquely identifies the device in a manner that is independent of a physical configuration of the computer system and a second identifier that uniquely identifies the device in a manner that is dependent upon the physical configuration of the computer system

- Wherein the method further includes a step of storing the first and second identifiers of the first device in response to an access by the first device to the shared resource. (Column 9, line 63 – Column 10, line 8)
- Wherein the act (a) is performed in response to an access, that occurs after the access by the first device, by the one of the plurality of devices to the shared resource, where the comparing is done by trying to access the logical volume (Column 12, lines 27-35) and includes acts of:
    - Examining a value of the first identifier presented by the one of the plurality of devices to the shared resource to determine that the one of the plurality of devices is representing itself to be the first device, where the WWN is examined.
    - Comparing a value of the second identifier presented by the one of the plurality of devices to the stored value of the second identifier for the first device, where the fabric ID is the fiber ID and is used to verify the access path, also used to identify the host. (Column 10, lines 33-40) & (Column 9, line 63 – Column 10, line 8)
    - Determining that the one of the plurality of devices is attempting to access the shared resource through a physical connection through the network that is different than the first physical connection through the network that is different than the first physical connection when the value of the second identifier presented by the one of the plurality of devices mismatches the stored value of the second identifier for the first device, where the fabric ID is the fiber ID which determines the access path is used by the access

controller to check if its valid (Column 10, lines 37-40), and where the fiber ID is further compared against the stored fabric IDs in the WWN table entry. (Column 14, lines 13-22, lines 53-56)

In reference to claim 6, 7 , 8:

Hubis et al. (Figures 1 and Figures 2) discloses a process by the entire system that performs actions by the partially by storage system, outside the storage system, and a device disposed between the storage system and network.

In reference to claim 23:

Hubis et al. (Column 9, line 63 – Column 10, line 8) discloses a method for use in a computer system including a plurality of devices, a storage system shared by the plurality of devices, and a network that couples the plurality of devices to the storage system, wherein the network employs a protocol wherein each of the plurality of devices has a first identifier that uniquely identifies the devices in a manner that is independent of a physical configuration of the computer system and a second identifier that uniquely identifies the device in a manner that is dependent upon the physical configuration of the computer system, the method including acts of:

- In response to a login of a first device of the plurality of devices to the storage system, storing the first and second identifiers of the first device, where the values

are stored upon accessing the fiber switch to allow access paths to be assigned. (Column 9, line 63 – Column 10, line 8) & (Column 10, lines 30-40)

- In response to an attempt, subsequent to the act (a), by one of the plurality of devices to login to the storage system while representing itself to the storage system as the first device, determining whether the one of the plurality of devices is attempting to login to the storage system through a physical connection through the network that is different than a first physical connection through the network used by the first device to login to the storage system in the act(a), including acts of:
    - (b1) examining a value of the first identifier presented by one of the plurality of devices to the storage system to determine that the one of the plurality of devices is representing itself to be the first device, where the WWN is examined.

      (b2) comparing a value of the second identifier presented by one of the plurality of devices to the stored value of the second identifier for the first device (Column 9, lines 50-57)

      (b3) determining that the one of the plurality of devices is attempting to login to the storage system through a physical connection through the network that is different than the first physical connection when the value of the second identifier presented by the one of the plurality of the devices

mismatches the stored value of the second identifier for the first device, where the physical connection is an access path. (Column 10, lines 33-40)

c) when it is determined in the act (b3) that the one of the plurality of devices is attempting to login to the storage system through a physical connection through the network that is different than the first physical connection, denying the attempted login by the one of the plurality of devices to the storage system, (Column 12, lines 4-35) & (Column 11, lines 45-57) where the host to controller port information is the access path disclosed by the fiber ID, and accessed is denied if the WWN, LUN, and host-controller-port information don't match.

In reference to claim 24:

Hubis et al. discloses the method of claim 23, wherein the network is a Fibre Channel fabric, wherein the first identifier is a world wide name (WWN) and the second identifier is a fabric identifier(fabric ID);

- Wherein the act(a) includes an act of; in response to a login of first device to the storage system, storing the WWN and the fabric ID of the first device, where the values are stored when the device initially logs into the fabric in order to have an access path. (Column 9, line 63- Column 10, line 8)
- Wherein the act(b1) includes an act of examining a value of the WWN presented by the one of the plurality of devices to determine that one of the plurality of

devices is representing itself to be the first device, where the WWN is examined for in the WWN table. (Column 14, lines 45-55)

- Wherein the act(b2) includes an act of comparing a value of the fabric ID presented by the one of the plurality of devices to the stored value of the fabric ID for the first device, where the fabric ID is compared in how it maps to the WWN table. (Column 14, lines 13-20, 45-55)
- Wherein the act(b3) includes an act of determining that the one of the plurality of devices is attempting to login to the storage system through a physical connection through the network that is different than the first physical connection when the value of the fabric ID presented by the one of the plurality of devices mismatches the stored value of the fabric ID for the first device, (Column 12, lines 4-35) & (Column 11, lines 45-57) where the host to controller port information is the access path disclosed by the fiber ID, and accessed is denied if the WWN, LUN, and host-controller-port information don't match.

In reference to claim 27:

Hubis et al. discloses a method for use in a computer system including a network and plurality of devices coupled to the network, the network employing a protocol wherein each of the plurality of devices has a first identifier that uniquely identifies the device in a manner that is independent of a physical configuration of the computer system and a second identifier that uniquely identifies the device in a manner that is dependent upon the physical configuration of the computer system, the network including at least one

network component that assigns a unique value for the second identifier to each of the plurality of devices that is logged into the network, the method including acts of:

a) in response to one of the plurality of devices attempting to login to the network and representing itself to the network as a first device, determining whether the one of the plurality of devices is attempting to login to the network through a port that is different than a first port of the network through which the first device previously logged into the network, where the host-to-controller port or the access path is determined by the fiber ID comparison. (Column 10, lines 33-40)

- when it is determined in the act (a) that the one of the plurality of devices is attempting to access the network through a port that is different than the first port, denying the attempted login by the one of the plurality of devices to the network, (Column 12, lines 4-35) & (Column 11, lines 45-57) where the host to controller port information is the access path disclosed by the fiber ID, and accessed is denied if the WWN, LUN, and host-controller-port information don't match.

In reference to claim 29:

Hubis et al. (Column 11, lines 45-58) discloses the method of claim 27, further including an act of preventing at least one of the plurality of devices from transmitting information through the network while representing itself with a value for the second identifier that differs from its value assigned by the at least one network component, where the information is prevented from being transmitted by the logon to the volume being denied.

In reference to claim 61:

Hubis et al. discloses the apparatus of claim 57, wherein the at least one controller includes:

- Means, responsive to the login of a first device of the plurality of devices to the storage system, to store the first and second identifiers of the first device in the storage device, where the fiber channel ID, the LUN, and the WWN are stored upon accessing the fiber switch to allow access paths to be assigned. (Column 9, line 63 – Column 10, line 8) & (Column 10, lines 30-40)
- Means, responsive to an attempt, after the login by the first device, by one of the plurality of devices to login to the storage system, while representing itself to the storage system as the first device, for examining a value of the first identifier presented by the one of the plurality of devices to the storage system to determine that the one of the plurality of devices is representing itself to be the first device and for comparing a value of the second identifier presented by the one of the plurality of devices to the stored value of the second identifier for the first device, where the first and second identifiers are the fiber ID and the WWN which are both compared for. The WWN is compared for in the table. (Column 11, lines 45-57) The fiber ID is used to determine the access path and is used to make a determination of the physical route (Column 10, lines 33-40) while also being compared for later in the WWN table. (Column 14, lines 50-55)
- Means for determining that the one of the plurality of devices is attempting to access the storage system through a physical connection used by the first device in logging into the storage system when the value of the second identifier presented by the one of the plurality of devices mismatches the stored value of the

second identifier for the first device, where an attempt is made to match the WWN, LUN, and host-to-controller/access path/fiber ID when a request is made to access the logical volume. (Column 11, lines 45-57)

- Means for denying the attempted login by the one of the plurality of devices to the storage system when it is determined that the one of the plurality of devices is attempting to login to the storage system through a physical connection through the network that is different than the first physical connection, (Column 12, lines 4-35) & (Column 11, lines 45-57) where the host to controller port information is the access path disclosed by the fiber ID, and accessed is denied if the WWN, LUN, and host-controller-port information don't match.

In reference to claim 62:

Hubis et al. discloses an apparatus for use in a computer system including a network and a plurality of devices coupled to the network, the network employing a protocol wherein each of the plurality of devices has a first identifier that uniquely identifies the device in a manner that is independent of a physical configuration of the computer system and a second identifier that uniquely identifies the device in a manner that is dependent upon the physical configuration of the computer system, (Column 9, line 62 –Column 10, line 8)

the network including at least one network component that assigns a unique value for the second identifier to each of the plurality of devices that is logged into the network, the apparatus comprising, where the second identifier is the fiber ID (Column 9, line 62 – Column 10, line 8):

- At least one input to be coupled to at least one of the plurality of devices, where the input is the access request. (Column 12, lines 28-31)
- At least one controller that is responsive to one of the plurality of devices attempting to login to the network and representing itself to the network as a first device, to determine whether the one of the plurality of devices is attempting to login to the network through a port that is different than a first port of the network through which the first device previously logged into the network, and to deny the attempted login by the one of the plurality of devices to the network when the one of the plurality of devices is attempting to login to the network through a port that is different than the first port. (Column 12, lines 28-35) & (Column 11, lines 45-57) where the host to controller port information is the access path disclosed by the fiber ID.

In reference to claim 63:

Hubis et al. discloses (Column 12, lines 25-35) discloses the apparatus of claim 62, in combination with a network switch to form at least a portion of the network, wherein the at least one controller is disposed within the switch, where the controller is the array access controller (Item 104 of Figure 1) and is clearly disposed within the Fabric of switches in Figure 2a.

Claims 2,5,10,14, 17, 20, 28, 32, 33, 36, 41, 45, 48, 51, 54, 55, 56 are substantially similar to claim 1 and are rejected for the same reasons.

Claims 9, 30, 34, 40, 58, 65 are substantially similar to claim 3 and are rejected for the same reasons.

Claims 13, 31, 35, 44, 66 are substantially similar to claim 4 and are rejected for the same reasons.

Claims 11, 15, 18, 21, 25, 37, 42, 46, 49, 52, 59 are substantially similar to claim 6 and are rejected for the same reasons.

Claim 38 is substantially similar to claim 7 and is rejected for the same reasons.

Claims 12, 16, 19, 22, 26, 39, 43, 47, 50, 60 are substantially similar to claim 8 and are rejected for the same reasons.

Claim 57 is substantially similar to claim 23 and is rejected for the same reasons

Conclusion

4. The following prior art not relied upon is made of record.

- Yamazaki, US patent 6205145 discloses a fiber channel fabric for with a bus arbitration controller.

- Ito et al., US patent 6684209 discloses a security method and system for storage subsystem

5. Any inquiry concerning this communication from the examiner should be directed to Thomas M Ho whose telephone number is (703)305-8029. The examiner can normally be reached on M-F from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703)308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5484.

TMH

September 30th, 2004

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100